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ABSTRACT

Developing the productive capacities of students is a valid function of schooling and is not in conflict or competition with other educational purposes, such as academic excellence. Employers and young workers in the San Francisco Bay area noted attributes that workers need for success in entry-level unskilled or junior professional jobs. These attributes include basic skills; functional skills such as problem solving, learning and inquiry, interpersonal competence, and task management; social knowledge; social maturity; self-development; and work content skills. Such attributes can be acquired through academic studies if the school is organized and managed as a workplace in which learning is the work to be performed. Adolescent work experience in the commercial world is of limited value in fostering productive capacity and may have the contrary effect. When planned and carried out with appropriate educational supports, direct experience in non-school workplaces can make significant contributions to the development of productive capacity. The development of general skills, understanding, and habits of conduct should be recognized as legitimate and essential preparation for productive adult employment and should receive higher educational priority than the development of specialized occupational skills. (KC)

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RESEARCH BRIEF

December 1982

DEVELOPING GOOD WORKERS

Robert M. Peterson

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SUMMARY

- Developing the productive capacities of students is a valid function of schooling and is not in conflict or competition with other educational purposes, such as academic excellence.
- Attributes critical to productive capacity can be acquired through academic studies if the school is organized and managed as a workplace in which learning is the work to be performed.
- Adolescent work experience in the commercial world is of limited value in fostering productive capacity and may have the contrary effect. When planned and carried out with appropriate educational supports, direct experience in non-school workplaces can make significant contributions to the development of productive capacity.
- The development of general skills, understanding, and habits of conduct should be recognized as legitimate and essential preparation for productive adult employment and should receive higher educational priority than the development of specialized occupational skills.

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Human capital is the inherited and acquired abilities of people as producers. The concept accommodates individual differences between workers and points out that investments in human abilities, like investments in material resources, can be a source of income.

Differences between people are represented in economic analyses by differences in wages, experience, or education, where education is defined as years of schooling. This assumes that more productive workers are paid more, have more experience, or have completed more schooling than less productive workers. This differential weighting of labor hours seems reasonable for purposes of economic analysis, but it offers no guidance to the design and planning of programs intended to improve the abilities of people as producers. What is needed is an understanding of the particular human qualities that underlie individual differences in productivity. The schools could then initiate education or training programs specifically designed to develop those qualities.

Producing good workers is a legitimate function of the schools. That doesn't mean that education should be a captive of industry or that we should return to a factory model of schooling. Neither does it ignore the schools' responsibility to serve social values unrelated to economic growth, such as preserving and enriching our cultural heritage, producing informed citizens who can think critically about important public issues, and developing each student's potential for personal fulfillment. The enhancement of productive capacity is compatible with those educational aims.

The schools are not the only agent with the responsibility or potential to develop

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the productive abilities of children and adolescents. Real or imagined deterioration in the skill or dedication of American workers has been attributed to various factors in society, including the demise of the family, declining morals, the women's movement, dehumanizing jobs, and the appearance of the "me generation." Who, then, is responsible for producing good workers? Clearly it is a joint responsibility shared by several institutions, including the schools, the home, the public media, and the workplace itself.

WHAT IS A GOOD WORKER?

If the schools are in the worker-production business, which personal attributes should the schools try to preserve and develop in their students? The list presented in Table 1 is offered as an answer to that question. It was derived from several published surveys and speculative classification schemes and from the testimony of employers and young workers in the San Francisco Bay Area. The testimony was obtained through questionnaires and interviews. Employers told us what kinds of workers they were looking for and cited specific instances in which particular worker characteristics contributed to or detracted from the business of producing goods or services. Young people, ages 18 to 26, reported on their personal experiences in the workplace and gave their retrospective interpretations of why they succeeded or failed as workers in particular situations. Our studies dealt with entry-level jobs at both the unskilled and junior professional levels.

The twenty-one competencies listed in Table 1 are organized under six categories. Basic skills are probably the most frequently cited requirements in jobs that call for no more than a high school diploma. Although many jobs do not require reading, writing, or computation directly in the performance of job tasks, at least some minimum competency seems to be almost universally required for simple orientation and functioning in any organization. These skills are vital, of course, to education beyond high school, specialized job training, and occupational advancement.

Functional skills, social knowledge, and social maturity cover a variety of competencies related to fitting into an organization, adapting to variation and change, being constructively independent, and conducting oneself as a good citizen in the organizational community.

Self development is closely related to social maturity and adds self understanding and purpose. This category is also related to career choice and reflects a concern expressed by some employers that many young workers seem to lack a sense of direction and a personal commitment to work, possibly because they're in the wrong job or occupation.

The final category in Table 1, Work-Content Skills, covers the specialized abilities involved in performing the collection of tasks that make up a specific job or occupation, such as fitting pipes, programming a computer, operating a drill press, or analyzing numerical data. These are the kinds of technical skills that commonly come to mind in thinking about human capital or the overall quality of the work force.

IMPLICATIONS FOR THE SCHOOLS

General Knowledge and Skills. Every adult is called on to play many roles: worker, citizen, mate, parent, neighbor, and so on. Each role obviously has its special requirements, just as various occupations do, but they also share a common set of fundamental attributes that enable a person to be effective in and adaptable to a wide variety of situations. Except for the final category, Work-Content Skills, the list of attributes shown in Table 1 could be be those related to success in almost any adult role. We think that is an accurate translation of what employers were trying to tell us in our studies at Far West: They want young adults, not over-age adolescents. Whether our informants in business and industry were talking about unskilled or junior professional jobs, their list of employee requirements were strikingly similar. Essentially, they want workers with the basic and functional skills, the motivation, understanding, and habits of conduct that enable them to fit into the organization and develop into productive contributors to its social and economic health.

Instructional Content. The list is almost free of content or instructional subject matter. The exceptions are the categories Work-Content Skills, which refers explicitly to job-specific abilities, and Social Knowledge, which implies some of the subject matter of the social sciences. Where, then,

Table 1. PERSONAL ATTRIBUTES RELATED TO INDIVIDUAL PRODUCTIVITY

Basic Skills

Reading

Writing

Oral communication

Computation

Functional Skills

Problem-solving: define problems by identifying need or discrepancies; identify alternative solutions; anticipate probable consequences; choose, apply, and evaluate solution or course of action

Learning and inquiry: recognize when something needs to be learned; identify appropriate means; listen, observe, analyze for cause-effect relationships; compile and rank information, synthesize facts, concepts, and principles; generalize to new situations; apply information to specific problems or tasks

Interpersonal: frame-of-reference flexibility, take variety of perspectives into account, anticipate behavior of others; resolve disputes and reconcile conflicts of interest constructively; listen objectively, speak effectively, express own needs, wants, values, opinions with tact, discretion, and courtesy

Task management: analyze needs, set priorities and objectives, plan activities; manage time and resources efficiently to accomplish goals; make and keep realistic commitments to others; follow through on planned activities, seeking guidance and help as necessary; exercise self-discipline, evaluate own performance, and accept responsibility for own decisions and actions

Social Knowledge

Knowledge of major social institutions: purpose, structure, and function; individual roles, rights, and obligations

Understanding of systems of authority, rank, and status: power by position, by performance; status by experience, seniority, authority, responsibility, group membership; subordination of individual needs, formal and informal prerogatives of authority and status

Understanding of formal and informal expectations and obligations that govern social interactions: rules, norms, values, sanctions

Social Maturity

Authority: Ability and willingness to accommodate rules and norms; deal effectively with supervision, constructive criticism, and requirements for deference

Performance: Ability and willingness to meet standards of quality; exert necessary effort; take appropriate initiative

Responsibility: Ability and willingness to be trusted with time and material resources; accept and fulfill responsibility

Cooperation: Ability and willingness to function cooperatively with others; handle conflict and grievance constructively

Adaptability: Ability and willingness to accommodate change, shifts, and diversity; improve performance and expand capacity through experience

Self Development

Knowledge of own values, needs, interests, aptitudes, and predispositions

Sense of personal connection with the future and the distinction between means and ends

Sense of personal direction and continuity; recognition of the need to defer gratification

Identification with other individuals, groups, and institutions

Work-Content Skills

Mastery of a particular vocabulary, procedures, or subject matter specific to an occupation or employer

are the physical and biological sciences, history, economics, government, art, and literature? In building the list, we accepted as a given that the subject matter of those disciplines is the core content of a liberal education--that the development of student understanding and abilities in those fields is the primary business of education. Functional skills, self development, and social maturity are not intended as distinct and separate subject matter for instruction. We do not suggest that courses should be offered in "problem solving," "the distinction between means and ends," or "responsibility." We do suggest that those abilities and tendencies can be acquired through the process of schooling--through the study and mastery of the core curriculum. Whether or not they are actually acquired depends on the particular procedures employed and the learning climate created in the school as a whole--or, better still, in the community as a whole. The key ingredients of such a climate are:

- Emphasis on academic concerns;
- Consistent homework and use of the library;
- Efficient use of class time;
- High expectations by both teachers and students;
- Reward systems that clearly connect payoff to performance, emphasize praise rather than punishment, and recognize the value of cooperation as well as competition;
- Giving responsibility to students and holding them accountable;
- Stability of staff and student friendship groups; and
- A social climate that encourages productivity.

Work Experience. The school is a workplace in which learning is the work to be performed. The school can therefore provide constructive work experience within its own walls, provided that certain essential factors are present: opportunities to exercise intelligence, judgment, and initiative; accountability within a just and rational framework of rules, rewards, and sanctions; clear connections between the quality of personal effort and the quality of results. To the extent that the schools provide such elements, they foster the development of attributes that tend to be recognized and rewarded in the workplace.

The work experience available to adolescents in typical youth jobs is severely limited in its ability to promote the development of functional and adaptive skills or social maturity. These jobs provide little opportunity to cooperate on joint tasks, exercise cognitive skills, or see the relevance of personal actions to the overall functioning of the organization. From an educational point of view, the best that can be hoped for with these jobs is that they introduce the student to the discipline of employment and to some aspects of the commercial environment. To ensure that educational benefits will result from the experience, provisions must be made to exercise and reinforce the desired behavior, and workplace activities must be supplemented with educational supports that help the young worker understand the experience within a broader perspective of work and career. The required planning and support clearly require close collaboration between employers and the schools.

Specialized Skill Training. Technical skills are obviously essential to a productive work force. Such skills are the principal determinant of the quality of goods and services and the efficiency with which they are produced. However, there are important issues about when, where, and how the skills are acquired. One view is that all high school graduates, especially those who plan no further formal schooling, should be equipped with "marketable" skills, that is, the ability to perform a job that an employer wants done and will pay for. This works well when qualified people in specific occupations are in short supply and the needed skills are sufficiently well understood that effective and appropriate training can be provided. The obvious difficulty in preparing adolescents for specific occupations is in the uncertainty that those particular technical skills will be in demand when the time comes for job placement. There is also the danger of premature specialization, in which training is given in occupations for which the trainee is unsuited, and the mismatch is not recognized until after heavy investments have been made in specific occupational preparation.

What employers want from the schools is motivated people with the understanding and maturity to fit into an adult organization, and the basic and functional skills that enable them to grow. Without these qualities, technical job skills are of limited value to the young worker, the employer, or to the nation's long-range needs for a more productive work force.